

there cannot be too small a quantity of timber used; indeed, none should run round as continuous bond, or in any other situation where it is liable to rot; it should only be inserted when absolutely requisite as wood-bricks where necessary for fixing the joiner's work to, paying particular attention to avoid it in the party walls. A 9-inch party wall of stock brickwork, bonded only with iron hooping and of good structure, will resist fire as well as most 18-inch party walls built as at present. Wood lentils should be avoided as much as possible; if used, they should not be much longer than the width of the openings, and each with an arch spring above it, reaching from end to end of the lintel, so that if it be destroyed the brick arch above it will remain sound to support the weight above.

Little of the constructive department of carpentry is required in our modern erections in the basement story (and the less the better). Probably the carpenter's first essay would be to ascertain if the walls are perfectly level for the reception of the plates, &c. The next consideration will be the floors, which are either single or double, according to the magnitude of the building: those called single consisting, as most of your readers know, of a single tier of joists, laid from wall to wall, either longitudinally or transversely. Double floors are formed of girders which receive the flooring joists above, and ceiling joists below, in all their various forms. In forming single floors, the most usual way is to firmly fix the joists from front to back of the building, which in small houses having short bearings require no trussing, or, if any, that which is technically termed herring-bone trussing is generally sufficient; but in houses of larger dimensions, or where the bearing becomes greater, or the thickness of the flooring joists a consideration, a different sort of truss should be introduced, of which there are several; and the object of the present communication is to describe, by means of the accompanying diagrams, one which has been found very sufficient for the purpose, composed of wrought and cast iron as a support to the wood.

Fig. 1.—Assuming I.I. to be the bearing or span of the joists between the walls, the bars, DD, are inserted of malleable iron $3\frac{1}{2}$ inches by $\frac{1}{2}$ or $\frac{3}{4}$, and which are fitted into a cast-metal king-head, with connecting shoes for support of cast-metal cross bearers, and a projection, to be tapped for a union joint to be connected with the tension rod. AA, brick walls; CC, cast-metal shoes; DD, trusses which are strutted from the joists on each side to keep them from springing, and secure them in their proper position; E, cast-metal king-heads, with shoes for cross bearers, orifices for bolts, &c.; FF, tension rod, with union joints; HH, joists.

Fig. 2.—Transverse section of floor; AA, cast-metal king-heads, with bolts, &c.; BB, shoes for cross bearers; CC, cross bearers; DD, floor joists.

Figs. 3, 4, 5, and 6 are details, one-eighth real size.

Fig. 3.—Transverse section of metal head, joist, &c.; A, cavity for receiving truss; B, bolt; C, tension rod; DD, shoes for receiving cross bearers; EE, cross bearers; FF, struts; GG, floor joists.

Fig. 4.—Is the elevation of the cast-iron head, it will be perceived the under flanges of these bearers are a little wider than the shoes, to allow the floor-joist a better or larger bearing upon them; BB, trusses; C, cast-metal head; D, section of shoes for receiving cross bearers; E, king-bolt; dd, flanges of shoes; FF, tension rod; GG, joists.

Fig. 5.—Elevation of the shoe fixed to a stone plate 2 feet 6 inches or 3 feet long; the ends of this shoe are cast in form of dovetails, and are run into the stone with lead, a small bar of iron should then be fixed in a similar manner from stone to stone, either on the face of the work or on the top of the bed of it; to connect these stones as bond all round the building—A, stone plate; B, iron shoes; C, iron truss; D, tension rod; E, union joint.

Fig. 6.—Section of the same, A, wall-plate; B, metal shoe; C, cavity for iron truss; D, tension rod; E, shoes for cross bearers; F, cross binders next wall. From the construction of this floor it becomes nearly fire-proof, as the

principal supports, bonds, &c., are of stone and iron, consequently if ignition should take place, it is confined to the floor joists and boards only. B.

SOME NOTES ON CHURCHES AND CHAPELS.

THE alterations in *Westminster Abbey Church*, in the practised hand of Mr. Edmund Blore, are nearly completed, and, however much we may differ from the authorities as to the mode in which additional room for the public should have been obtained, we must bear testimony to the goodness of the work. The new stalls which surround the choir, are exceedingly well executed by Ruddle, from Peterborough. The canopies and finials present considerable variety. The stained glass in the south transept is finished, but the windows are at present covered up, and will remain so until the church is again opened for service. The ancient monuments in the abbey call loudly for conservation, and the modern ones for removal. The chapter-house continues in a disgraceful, not to say dangerous condition. It is to be hoped that the remarks which have appeared in *THE BUILDER*, on the decaying state of the external stonework of Henry the Seventh's Chapel, and the possibility of applying a preservative solution (quoted far and wide by contemporaries), will lead to some such step. The necessity is urgent.

The new church of *St. Mathias, Bethnal Green*, designed by Messrs. Wyatt and Brandon, in the Byzantine style, was consecrated about a fortnight since. It is built exteriorly of brick, with stone dressings, and consists of nave and aisles, tower and chancel. The nave has at the west end a large wheel window, and a projecting porch. The tower is on the south side, projecting from the aisles: it is square in plan at the bottom, but takes an octagonal form above, and is surmounted by a slated spire. The pillars, separating the nave from the aisles, carry moulded arches, which support the clerestory. The capitals of the pillars are varied in design. The roof is of timber, of open work, and stained dark oak. The chief feature in the church is the chancel and semicircular apsis at the eastern end, the floor of which is, as usual, raised above the level of the church. The ceiling of the apsis is domical in form, has an opening for light at the top, and in a narrow frieze running along at the spring of the ceiling, is this inscription, "A new commandment I give unto thee." The floor of the apsis is of red and black tiles, excepting in the centre, immediately in front of the communion-table, where the tiles are more ornamental. The reading-desk is of wood, and is open. The pulpit, placed on the north side of the church, is of stone, and is novel and effective. There is a large gallery at the west end, and at the north and south sides are narrow galleries, supported on iron cantilevers. The church, in the interior, is 117 feet long, 50 feet wide, and 40 feet high, to the pitch of gable. The cost is said to have been about 4,500*l.* Mr. Holland was the contractor.

On Shrove Tuesday a small Roman Catholic church, called the *Church of St. John the Baptist, at Hackney*, was opened for Divine worship. It consists of a nave, north aisle, chancel, and sacristy, with a bell-cot and spire of Caen stone, 90 feet in height, at the west end, and has withinside more decoration than is usually found in Protestant churches. The altar is richly carved in Caen stone; and there is a sepulchre, piscina, and sedile, in the chancel. The rood-screen is of carved oak, with the rood, and figures of the Virgin Mary and St. John. It has a stained-glass window, by Messrs. Ward and Nixon. The roof of the nave is open, and the ceiling of the chancel is emblazoned in colours and gold; the panels are powdered with stars, and contain monograms of the Holy Name, the Virgin, the Four Evangelists, &c. The church is built of Kentish Rag and Hassock, and in style is of the Decorated period. The total cost, including altar, stained-glass, rood-screen, &c., and all fittings, was about 2,000*l.* The architect is Mr. W. W. Wardell, of Bishopsgate-street; and the builders were the late firm of Fisher and Son, of Stratford, Essex.

South Hackney New Church, under Mr. Hakewill, is making considerable progress,

and is to be ready for consecration in June. It is a handsome and extensive structure, in the early English style, with transept, large chancel, and tower with broach spire at west end. The intersection of the cross and the chancel are vaulted: the rest of the church has open timber roofs. Polychromy, in a moderate degree, will be resorted to.

We have just seen a lithograph of a *Congregational Chapel* about to be erected in the Queen's-road, *Reading*, from the design of Mr. Poulton, which shows that the Congregationalists of England are also becoming anxious to give an ecclesiastical character to their sacred edifices. The style is Early English; with a turret and pinnacle at the four angles, a triplet window and slightly projecting doorway at the west end, and a high pitched roof. Rag-stone walls and Bath-stone dressings are to be used. Schools of similar character are to be added at the east end; and the cost of the whole is estimated at between 3,000*l.* and 4,000*l.*

The restoration of *St. Lawrence's Church*, in the same town, is being proceeded with. Several frescoes have been discovered on the east wall of the chancel, of a very interesting description; one of them, representing the "Transfiguration," is said to be beautifully executed. An early English couplet window has been brought to light in *St. John's Chapel*.

The appointment by the Church Building Society of supervising architects, noticed in a late number, is not relished. We have received several letters on the subject, and give the following as representing all. It is signed "An Architect," and says:—"I cannot help troubling you with a few remarks on a paragraph which appeared in your last number but one, stating that the Church Building Society had appointed several architects to advise on restorations, and to superintend the works for which grants were made by them, independently of the architect appointed in the usual way. Now, it appears to me, that such interference is not only an insult to the profession generally, but also the means of wasting the society's funds. Architects, as a body, will not submit to such an infliction; if they do, they will find themselves (however able) the mere agents of a clique, who are not a whit more capable of judging of geometrical proportion and "lateral thrust" than they themselves are. Again, what a field it opens for petty interference and annoyance,—to say nothing of its tendency to cram these co-operators down the throats of the public. We are well aware that no two men agree perfectly on all points in matters of taste, and therefore architects in this case will be considerably fettered in their judgment by differing in opinion with the paid advisers of the society. If this scheme be carried out, all the church restorations undertaken by the Church Building Society must be guided by the opinions and tastes of some half-dozen architects; this must not be, and the sooner the society abandons the notion the better."

"THE RIGHTS OF LABOUR."

OR THE WAR-CRY OF THE FRENCH REVOLUTION.

THE Bourbons and the bourgeoisie are at a discount in the capital of France,—the blouses at a premium. The safety-valve of talk tied down,—instantaneous was the explosion; and disintegrated fragments of the very boiler of the great machine of state—the get-up of its steam—the source of its power—the people—or the idle "populace," rather than the busy people—the red-hot fuel, rather than the mere scalding steam,—in short, the very dust itself kicked up—was forthwith found to fill the palace of the deserted Tuileries, and strew the benches of the abolished House of Peers. And so, too, the still more rash than skillful engineer has found his "firm seat" on the engine—boasted of even on the eve of this astounding crisis—useful only in his headlong flight to a quieter realm.

Paris—France—is writhing in the pangs of labour—most emphatically speaking, most significantly—*La mort*, even the labour of a new, uncertain, and mysterious birth, of unrealized, if not even unimagined shape,—a caricature, it may be, gross and terrible, of the "rights of labour," as was the bloody fruit of the first revolution, of the no less vaunted "rights of man."